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LABELLING INSECT SPECIMENS

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If an insect collection is to have more than just aesthetic value it is necessary that its specimens be correctly labelled. Such labelling is essential for any kind of scientific study and it is sadly unfortunate that many beginners are unaware of the value of data labels and so neglect this task. Many rare and otherwise extremely valuable specimens have become worthless due to the absence of data.

The following notes on labelling pertain only to the basic techniques and not to special labels and procedures which may sometimes be necessary.

Insects mounted on pins should have a small white cardboard label attached to the pin below the specimen. Such labels should measure approximately 15 mm x 10 mm and, for neatness, should be of a uniform size and at a uniform height on the pin. There is no particular merit in using very tiny labels. Each label should show the locality, date and name of the collector of the specimen. Labels should be fixed with the data upwards and not too close to the specimen so that, where possible, it can be read wihtout having to handle the specimen. Data should not be recorded on the back of labels as this is liable to be overlooked. Care should be taken not to push the pin through the label where printing occurs as this could render part of the data illegible. Specimens in liquid preservative should have similar labels enclosed with them in their container although the size depends to some extent on the size of the container. Ink on such labels should be thoroughly dry before being immersed in the preserving fluid and it is necessary to ensure that the preservative will not have any effect on the label or ink.

It is essential that labels be permanent, legible, accurate, unambiguous and bear adequate information. We must keep in mind that others, in years to come, may wish to study our material.

Label Data

Locality

When writing the locality for a specimen it should be brief but accurate enough to enable future collectors to find the general area in which the specimen was taken. The name of a town, mountain etc. followed by the name of the state, is often sufficient although these may need qualification by the addition of further information. Little known places may need the addition of "near . . . (a large town etc.)". Creeks, rivers, mountain ranges etc. are inadequate and need similar clarification. To just write "Rocky Creek, N.S.W." would certainly be of no value as there are many Rocky Creeks in New South Wales and also the creek might be of considerable length, but if this is qualified by stating "10 kilometres N.W. of . . ." then the correct spot can be located. Similarly it is often necessary to include the altitude and sometimes even latitude and longitude may need to be used. Some collectors prefer to show the state first, followed by the precise locality. In a world collection it is advisable to show the name of the country first, in capitals.

Date

The date should show the day, month and year and should be written 2 Mar. 1973 etc. and not 2/3/73 or 2/iii/73 etc. Many people, especially in some foreign countries, express dates showing the month first, e.g. 3/2/73, meaning March 2nd, 1973. Thus, if the month is shown as an abbreviated word no doubt can exist. It is also wise to show the full year, e.g. 1973 and not just 73, as valuable specimens and collections are kept indefinitely. For instance, the insects collected during the *Endeavour* voyage in 1770 are still preserved in the British Museum.

Collector

The name of the collector is added to the label as a mark of acknowledgement and to enable anyone interested in the specimen to gain further facts about it, either direct from the collector or from literature.

Additional Data

Sometimes other information is included on the label. If the specimen has been collected using an ultra-violet light this is usually indicated as "At U.V. light". Bred specimens should be marked "Bred ex larva", "Bred ex pupa" etc. followed by "Emerged 2 Mar. 1973" etc. Habitat data, host plants if known and relevant or other supplementary data, should be given on a separate label(s) placed below the main data label. Specimens necessitating cross-reference, e.g. between a specimen and its exuviae, nest, eggs etc., between a parasite and its host or between specimens taken in copulation, can be signified using a code number with a letter prefix on an additional label, e.g. "A12. See corresponding exuviae". A different letter or letter combination (e.g. AB) could be used each year. If the main data label is *exactly* the same on specimens requiring cross-reference it is then adequate to use only a letter or letter combination for cross-reference as the data label acts as a distinguishing feature.

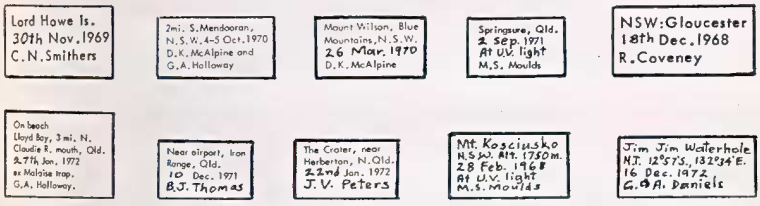

Fig. 1. A selection of adequate data labels.

Label Materials

Paper

A thin, white, good quality card should be used for permanent labels as these must last for many years. Thin paper is unsuitable as it loosens on the pin and disintegrates usually within 50 years. Coloured materials should not be used as these are used for special labels such as types and published figured specimens.

Ink

Permanent labels should be printed using a fine pen and a good

quality india ink. "Pelikan Fount India Ink" or preferably "Pelikan India Ink Special No. 50" are brands highly recommended which are available at most newsagents. Unlike some india inks these are also alcohol-proof. Mapping pens are suitable but by far the most convenient is a type of technical drawing pen similar in style to a fountain pen, which can hold large quantities of india ink and is available in a variety of different width nibs. One brand that has been found acceptable is the Rotring "Rapidograph" pen. For insect labelling a 0.2 mm nib has been found the most useful. There is a tendency for this type of pen to clog however, when not in constant use, but usually several vigorous shakes have it working in a short time. If pens are kept in a tube containing a piece of damp cottonwool they will never dry out.

Ballpoint type pens (e.g. "Biro") and fountain pens should not be used as their inks easily become illegiable in an insect collection. Pencil is the next best substitute to india ink and is, in fact, remarkably lasting.

Commercial Printing

When a large number of specimens have been collected at the one locality, or specimens are collected from a particular locality regularly, then the laborious task of writing many similar labels can be overcome by having suitable labels printed, leaving a space for the date to be added by hand.

Photo-copying Machines

Probably the most convenient method of mass producing labels is by using a "Rank Xerox" Reducing Copier. A master of the desired labels is typed using a sheet of plain white paper and preferably a typewriter with a type size of not less than 12 letters per inch. For best results an electric typewriter, or at least one with a black carbon ribbon, should be used. Prints of this master are then made which are reduced in size to that required by using the "Rank Xerox" Reducing Copier. If such a machine is not directly available "Rank Xerox" offices will produce copies for a small charge. Charges are made per sheet so type up a full page of labels, repeating several times those labels of which many copies are required (Fig. 2). Alternatively, the typed master can be reduced

Narrabri, N.S.W.	Narrabri, N.S.W.	Narrabri, N.S.W.	Ebor, N.S.W.	Ebor, N.S.W.	Ebor, N.S.W.
M. S. Moulds	M. S. Moulds	M. S. Moulds	M. S. Moulds	M. S. Moulds	M. S. Moulds
Narrabri, N.S.W.	Narrabri, N.S.W.	Narrabri, N.S.W.	Ebor, N.S.W.	Ebor, N.S.W.	Ebor, N.S.W.
M. S. Moulds	M. S. Moulds	M. S. Moulds	M. S. Moulds	M. S. Moulds	M. S. Moulds

Fig. 2. Data labels obtained from part of a typed master.

in size by making a black and white matt photographic print showing the labels at the desired size. This print can then be copied using an ordinary "Rank Xerox" copier.

Labels produced using the standard developer and toner in the above mentioned "Rank Xerox" machines are suitable for dry mounted specimens only. It is necessary to use a special developer and toner (Type No. 22) which is both vapour and heat fused to the labels if labels are to be immersed in liquid preservative.

Offset Printing

With the increased efficiency, and appearance on the market of automatic plate makers etc., the offset printing of labels is the better and more economical method, especially for larger quantities. The process requires a typed master as in the photo-copying technique above and should at least be considered when 50 or more copies of the master are required. It may be necessary to have a pre-reduced master of the desired size if the printer is unable to do this. Most printers these days have offset machines.

Letterpress Printing

This process is usually far too expensive commercially. However, small hand printing presses (e.g. "Rejafix") are on the market. These require the hand setting of 6 point type for labels which may suit some persons.

Photography

Photographic prints should *not* be used as labels. Such labels are often unstable, especially over long periods of time and are also susceptible to chemical reaction.

Further Comments

Although it is possible to remmeber the data for a given specimen for a period, it is essential to label specimens as soon as possible after collection even if just with a rough field label. During field trips in which material is collected within a relatively short time at several localities this procedure is especially necessary as confusion will very quickly arise. Data for papered specimens such as butterflies is best written on the envelope while just a single temporary label can be used for groups of material pinned or wet preserved while in the field. Pencil or india ink are best for such labels as they are not effected by entomological chemicals.

A permanent label placed on a specimen by an earlier worker should, under no circumstances, be permanently removed or replaced. If clarification, elaboration or correction is thought necessary, or if the label is deteriorating, then a new label may be added below the existing one. A deteriorating label can often be glued to a piece of good quality card for continued preservation.

The practice of placing only numbered labels on specimens which correspond to details contained in a notebook or register should *not* be used. Each specimen should bear its own individual label showing the basic data. The numbering system may be used in addition to individual labelling if it is thought necessary to record further details. It should be remembered that even the smallest private collection could one day, very easily, find its way into the collections of research institutions and may, in any case, contain important specimens not regarded as such at present. If a numbering system has been adopted the entire value of the collection lies in one book. If, after collection and collector part, the book becomes lost the specimens become worthless and years of valuable work are wasted.

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